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Abstract

This paper examines the shareholder wealth effects of mergers and acquisitions in the Greek banking industry from 1995 to 2001, using the "event study methodology". The results suggest that targets' shareholders earned significant abnormal returns upon the announcement of horizontal and diversifying deals. On the other hand, bidders' shareholders had significant losses in cases of horizontal and zero effects in diversifying deals. Although mergers and acquisitions in the Greek banking industry are not found to be value-enhancing, they can be rationalized as an external growth strategy, whose goal was to strengthen the position of the participants in the domestic market and help them become more tenacious in a fiercely competitive international environment.

JEL Classification: G34; G21; G14

Keywords: Mergers and Acquisitions; Banking; Valuation effects.

1 Introduction

As financial intermediaries, banks play an essential role in the economy by transforming assets, facilitating risk management, financing trade, enabling capital accumulation, and spurring technological innovation. Over the last two decades, the banking and financial services sectors have been subject to an ongoing reconstruction process with increasing consolidation activity through Mergers and Acquisitions (M&A), as a major aspect of this process.[1]

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[1] Cybo-Ottone and Murgia (2000) suggest that at the beginning of this period, US deals dominated the scene but, more recently, M&As in European banking have started to catch up.

Concerning the case of the European Union (E.U.), several factors have been combined to facilitate consolidation within the banking industry. Walkner and Raes (2005) mention that these factors include (i) the globalisation of the international financial system due to the liberalisation of international capital movements and financial deregulation within countries; (ii) major technological advances, particularly in the field of data processing; (iii) improvements in the cross-border regulatory environment linked to the Single Market Programme and the introduction of the euro, which has eliminated exchange risk in the bulk of financial flows within the E.U.; and (iv) a diminishing effect of the so-called natural barriers such as language and culture.[2]

With respect to the shareholders' wealth effects of M&A transactions, most of the available evidence comes from the U.S. market.[3] Recently, M&A in the European banking market have also attracted research interest. Cybo-Ottone and Murgia (2000) estimate the shareholders' wealth effects in a sample of 54 M&A that were announced in the E.U. Member States' banking sectors (except for Greece and Luxembourg) and Switzerland, from 1988 to 1997. They find significant and highly positive wealth effects for targets' shareholders, varying from 12.93% to 15.3% as the event window covers ± 1 to ± 20 days from the event respectively. They also find a significant rise in stock market value for the combined firm at the time of the deals' announcement. Finally, they find positive results for deals between banks and insurance firms. Goergen and Renneboog (2004) present the most recent evidence for the E.U. Examining a sample of 22 M&A deals in 18 European countries for the 1993-2000 period, they find results consistent with those obtained by Cybo-Ottone and Murgia (2000).

Concerning the case of Greece, although the deregulation of the Greek banking industry was accompanied by M&A that contributed to its evolution, no attempt has been made for the evaluation of the shareholders' wealth effects caused by M&A.[4] The only exception is Mylonidis and Kelnicola (2005) who examine the financial and operating performance of 5 merger deals across commercial

[2] See for instance McKinsey (2002) and Morgan Stanley (2003).

[3] Becher (2000), surveying the early evidence for the U.S., documents that target firms gained about 20% and bidder firms roughly broke even. The author also examines the valuation effects of 558 bank mergers from 1980-1997 in the U.S. and finds that bank M&A did create wealth. On average, over a 36-day event window, targets' shareholders gained over 22%, bidders' broke even, and combined firms gained 3%. De Long (2001) presents a sample consisting by 280 domestic M&A, announced from 1988 to 1995 between publicly traded firms. He classifies M&A according to the activity and geographic similarity (focus) or dissimilarity (diversification) of participants and finds that only M&A that were focused both on geography and on activities earned a positive 3% return, while all other cases neither created nor destroyed shareholder wealth.

[4] Several aspects of the Greek banking industry have been the subject of recent academic research. Karafolas and Mantakas (1996) document operating-cost scale economies over the period 1980-1989. Hondroyiannis et al. (1999) suggest that the gradual deregulation increased the competitiveness of the Greek banking industry from 1993 to 1995. Eichengreen and Gibson (2001) find that for the period 1993-1998, economies of scale existed up to medium sized banks, but they disappear for larger banks. There is also a recent series of papers dealing with productivity and efficiency issues of the Greek banking industry, but the evidence is mixed and inconclusive. See e.g. Noulas (1997); Christopoulos and Tsionas (2001); Christopoulos et al. (2002); Spathis et al. (2002); Tsionas et al. (2003); Halkos and Salamouris (2004).

Greek banks. Employing pre- vs. post-merger comparisons, their findings do not provide evidence for performance gains resulting from bank mergers. Applying the "event study methodology", they find that mergers did create value on a net-aggregate basis. However, their sample is extremely small and, with respect to the event study methodology, they do not investigate the robustness of their results under different event windows.

Using the "event study methodology", the present paper aims to fill these gaps and hence estimate the shareholders' wealth effects of M&A in the Greek banking industry, from 1995 to 2001. Our sample contains all these cases of M&A where at least one of the participants was a banking firm that was publicly traded in the Athens Stock Exchange (ASE) at the time of the deal. Our results suggest that targets' shareholders had highly significant gains, especially in horizontal M&A, varying from 19% for the ± 5 day event window, to 40% for the ± 20 day window. With respect to the bidders' shareholders, the mean wealth effect is not statistically different from zero.

Horizontal M&A deals caused almost -10% losses for bidders' shareholders, significant at the 1% level. Moreover, the bidders' losses are found to be sensitive to whether the target firm was publicly traded in the ASE. In cases where the target firm was traded, the bidders had significant losses, while for those cases where the target firm was not traded, the bidders had neither gains nor losses. These results express the possible threat that bidders faced of partially losing the control over the management of the post-integration combined firm, given that the target firm was also listed in the ASE and thus, it was perceived as a comparatively strong competitor. Diversifying M&A are found to have zero wealth effects for the bidders' shareholders and significant wealth gains for the targets' shareholders, varying from 22% to 24% for the different event windows.

Some light is also shed on the incentives behind M&A in the Greek banking industry as well. Using stock-market data, two distinct hypotheses are tested: the "synergy hypothesis" and the "hubris hypothesis".[5] Our findings suggest that M&A in the Greek banking industry had no effects on the combined post-integration firm's value, implying that they were initiated in order to facilitate "size" rather than "efficiencies". To rationalize this finding, we reach M&A in the Greek banking industry under the prism of its recent deregulation. From the mid 1990s, the Greek banking system started operating under increased competition and internationalization. Greek banks had to make efforts in order to increase or, at least, maintain their domestic market shares, facilitate their access to international financial markets and exploit any possible economies of scale. M&A in the Greek banking industry, recorded since the mid-1990s, can be perceived as a way to attain the above goals. Thus, M&A in the Greek banking industry are explained as a twofold strategy: bidder banks increased their market share and asset value and abstained from being acquired from competitors in the short-run. Therefore, even if they were to be acquired in future, their comparatively high value could allow them to charge a high purchase price.

[5] The terminology has been lent from Trautwein (1990) who offers a complete presentation of the different theories for M&A incentives.

The rest of the paper is organized as follows. Section 2 gives a brief description of the recent changes in the Greek banking industry. Section 3 describes how the sample is constructed and section 4 presents the method used. Section 5 presents the empirical analysis and results. Section 6 concludes the paper.

2 The deregulation of the Greek banking industry

Until the mid-80s, the Greek banking industry operated under the regulation that was carried out through a complex system of credit rules, with administratively fixed interest rates. Tsionas et al. (2003) note that these rules aimed at influencing the asset structure of the credit system in a way conductive to the government's economic policy priorities, such as promoting small and medium-sized enterprises and financing state-owned firms. The relevant market was strongly oligopolistic, dominated by a small number of large state-owned banks.[6]

By the mid-1980s, the need for a flexible and market-oriented banking and financial system, and the prospects for participating in the Single European Market initiated efforts towards the deregulation of the Greek banking industry. Market deregulation began in 1987 and by the early 1990s, bank interest rates had been gradually liberalized and all quantitative credit restrictions and investment requirements, concerning the financing of the public industry, had been phased-out. Moreover, the central bank had authorized commercial banks to launch new financial products, such as leasing, factoring and venture capital, and specialized credit institutions were permitted to expand their activities in commercial banking. The Basic Banking Law, concerning establishment, operation and supervision of credit institutions, incorporated the provision of the Second Banking Directive and was passed in 1992.[7] It set out the principles of banking in the Single European financial market and provided equal competitive conditions for all European banking institutions. Foreign exchange controls concerning current transactions were lifted in 1992, while capital movements were completely liberalized in May 1994.

The privatization of several banks and the establishment of new, mainly small, private banks were also important developments in the second half of the past decade that contributed to the enhancement of competition in the market as well. However, deregulation did not lead to any significant increase in foreign presence in the banking industry in the 1990s, in terms of the number of banks.

It is evident that from the mid 1990s, the Greek banking system started operating under increased competition and internationalization. Tsionas et al. (2003) note that banks operating in Greece had to adjust to the new conditions and cope with the ensuing intensified domestic and cross-border competition.

[6] A complete review of the evolution of the Greek banking industry can be found at Pagoulatos (1999) and Bryant et al. (2001).

[7] Directive 89/646/EEC of 15/12/1989 - EC Official Journal N.386 of 30/12/1989.

Thus, Greek banks had to make efforts in order to increase or, at least, maintain their domestic market shares, facilitating their access to international financial markets and exploiting any possible economies of scale.[8]

M&A in the Greek banking industry, as recorded since the mid-1990s, can be seen as a way to attain the above goals. Several Greek banks have been involved in M&A, since 1995. Most of these deals concerned the domestic market, including not only banks but also non-bank financial enterprises. Some large credit institutions opted to merge with their subsidiaries with a view of restructuring their activities and cutting their operating expenses. Additionally, several banks tried to expand or further develop their activities in industries such as "bancassurance", where they can profit from synergies and cross-selling by both bank networks and insurance companies.[9,10]

3 The sample

From 1995 to 2001, 19 M&A were recorded in Greece, in which at least one of the participants was a banking firm, publicly traded in the ASE at the time of the deal, and the transaction led to changes in the targets' control.[11] Note that although our sample is comparatively small, it contains all these M&A deals that affected primarily the reconstruction of the Greek banking and financial services industry, in the post-deregulation era. The sample is presented in table A of the Appendix. Note also that, in all cases, the bidder firm was a commercial bank with 3-digit SIC 652. Then, the above 19 cases are classified in "horizontal" and "diversifying" M&A according to the activity of the target firm. In order to classify a case as a "horizontal" one, the target has to be a commercial bank as well. In cases where the target's 3-digit SIC is different from 652, the deal is classified as a "diversifying" one.[12] Furthermore, diversifying M&A are classified in three sub categories: in cases where the target firm is an insurance company, a security firm and, finally, an investment bank.[13].

In the above 19 cases, bidders were publicly traded in the ASE, with the

[8] Tsionas et al. (2003) present evidence according to which, over the period 1993-1998, there had been a decline in the concentration ratio of the commercial banking market. More precisely, the Herfindahl index (the sum of squares of market shares calculated over bank deposits of the Greek banking system) decreased from 0.31 in 1993 to 0.25 in 1998.

[9] Kamberoglou et al. (2004) mention that M&A in the Greek banking industry resulted in higher concentration: the market share of the top-5 banks as a percentage of total assets rose from 57% in 1995 to 65% in 2000. This, however, has not led to less competition.

[10] Cybo-Ottone and Murgia (2000) note that bancassurance is a European phenomenon as regulations allow E.U. banks to own insurance subsidiaries and to perform in direct distribution of insurance products.

[11] In the present paper the attention is restricted on the integration transactions that led to changes in the targets' control, and not on the accounting treatment of these transactions. Thus, the terms 'Mergers' and 'Acquisitions' are used equivalently.

[12] Cases 4, 5, 7, 8, 9, 10, 12, 13, 14 and 16 are classified as horizontal M&A and cases 1,2,3,6,11,15,17,18 and 19 as diversifying.

[13] The target firm is an insurance company in cases 1, 11 and 19, while, in cases 3, 6 and 15 the target is a security firm. Finally, in cases 2, 17 and 18, it is an investment bank.

exception of cases 5 and 10, while target firms were listed in half of the cases.[14] A final classification considers target firms: In most cases the target was a domestic firm, but there are also cases (4, 12, 14 and 19) where the target firm was a foreign one with a network of branches in Greece.

4 The method

To measure the short-term wealth effects of M&A deals, the "event study methodology" is employed.[15] Firstly, for each merger deal, the event of interest and its date, i.e. the date of the first announcement of the deal (that is the "event date" t_0), is defined and the "event window" $[T_1, T_2]$ with $t_0 \in [T_1, T_2]$ is determined.

Since the magnitude of any valuation effect is sensitive to the length of the event window, its determination is of great importance. Schwert (1996) confirms that there is a lot of evidence in support of the semi-strong hypothesis of market efficiency with respect to M&A. From the other side, it is evident that the ASE operates under weak efficiency.[16] Thus, in order to reach robust results, the event study methodology is employed for three different event windows.[17]

Then, the market model ($R_{it} = \widehat{a_i} + \widehat{\beta_i} \times R_{mt} + e_{it}$), estimated for a period ending at T_1, gives $\widehat{a_i}$ and $\widehat{\beta_i}$ for every security, with $E(e_{it}) = 0$ and $Var(e_{it}) = \sigma^2_{ei}$. R_{it} is the observed return on security i for event day t and R_{mt} is the market index portfolio rate of return in date t. Estimators $\widehat{a_i}$ and $\widehat{\beta_i}$ are used to predict the "normal return" $\widehat{R_{it}}$ for each participant's security, for each day of the event window, with $\widehat{R_{it}} = \widehat{a_i} + \widehat{\beta_i} \times R_{mt}$.

Given the event window, the "abnormal return" for each day is given by $AR_{it} = R_{it} - E(R_{it}|X_t)$. R_{it} and $E(R_{it}|X_t)$ are the "actual", and "normal" return respectively for day t, with X_t being the conditioning information for the normal return model. $AR_{it} = R_{it} - E(R_{it}|X_t)$ is transformed in eq. (1):

$$AR_{it} = R_{it} - (\widehat{a_i} + \widehat{\beta_i} \times R_{mt}) \tag{1}$$

with $AR_{it} \sim N(0, Var(AR_{it}))$ and $Var(AR_{it}) = \sigma^2_{ei}$.

We then estimate the Cumulative Abnormal Return (CAR) for firm i, over the event window, using eq. (2):

$$CAR_i(T_1, T_2) = \sum_{T_1}^{T_2} AR_{it} \tag{2}$$

[14] Target firms were listed in cases 1, 5, 8, 9, 10, 13, 16, 17 and 18.

[15] For an excellent presentation of the "event study methodology" see MacKinlay (1997).

[16] Kavussanos and Dockery (2001) and Siourounis (2002) provide recent evidence for the weak efficiency under which the Athens Stock Exchange operates.

[17] Surveying existing papers, one concludes that there is little consensus about the duration of the event window. On one hand, the measurement error may be substantial when using narrow event windows but, on the other hand, as we increase the length of the announcement period, the noise-to-signal ratio increases, and it becomes increasingly difficult to measure the impact of the event on share price with precision. To overcome this weakness is another reason for undertaking the analysis under three different event windows.

$Var[CAR_i(T_1,T_2)] = (T_2 - T_1 + 1)\sigma_{ei}^2$ and under the null hypothesis, the event under study has no impact on the integration participants' value. To gauge statistical significance, a Z-test, with $Z = \frac{CAR_i(T_1,T_2)}{\sqrt{(T_2-T_1+1)\sigma_{ei}^2}}$, is performed.

An aggregation of interest can also be performed across both time and events. In that scenario, the Cumulative Average Abnormal Return ($CAAR$) is given by eq. (3):

$$CAAR(T_1,T_2) = \frac{1}{N}\sum_{i}^{N} CAR_i \tag{3}$$

where N is the number of firms (or events, equivalently) and $Var[CAAR(T_1,T_2)] = \frac{1}{N^2}\sum_{i}^{N}\sigma_i^2$. Under the null hypothesis, the event under study has no impact on the participants' value, and the $CAAR$ is zero, with $Z = \frac{CAAR(T_1,T_2)}{\sqrt{(T_2-T_1+1)\sigma_{ei}^2}}$.

Houston and Ryngaert (1994) argue that looking only at the two separate entities (bidder firm, target firm) may give a partial and perhaps distorted interpretation of the market reaction to the deal's announcement. Thus, in cases where both integration participants were publicly traded at the time of the announcement, a further step is to evaluate the market's expectations on the combined gain resulting from the deal. Following Houston and Ryngaert (1994), the Total Cumulated Abnormal Returns ($TCAR$) are estimated as a weighted sum of bidder's and target's Cumulated Abnormal Returns according to the following equation:

$$TCAR_i(T_1,T_2) = \frac{MV_B \times CAR_B + MV_T \times CAR_T}{MV_B + MV_T} \tag{4}$$

MV_B and MV_T is the value of the bidder and target firm respectively, t days before the event date. In addition, CAR_B and CAR_T are the cumulative abnormal returns for the bidder and the target firm respectively, over the event window. Following Houston and Ryngaert (1994), $Var[TCAR_i(T_1,T_2)] = \left(\frac{MV_B}{MV_B+MV_T}\right)^2 \times CAR_B + \left(\frac{MV_T}{MV_B+MV_T}\right)^2 \times CAR_T +$

$+2 \times \frac{MV_B}{MV_B+MV_T} \times \frac{MV_T}{MV_B+MV_T} \times \rho_{BT} \times \sqrt{Var\left(CAR_B\right) \times Var\left(CAR_T\right)}$, with ρ_{BT} the estimated correlation between bidder's and target's market model residuals for estimation of marked model prior to the event date. To gauge statistical significance, the corresponding Z-test, with $Z = \frac{TCAR_i(T_1,T_2)}{\sqrt{Var[TCAR_i(T_1,T_2)]}}$, is performed.

5 Results

In order to examine shareholders' wealth effects, caused by M&A deals in the Greek banking industry, Cumulative Abnormal Returns (CAR), Cumulative Average Abnormal Returns ($CAAR$) and Total Cumulated Abnormal Returns

($TCAR$) have been measured for three different event windows (±5, ±10 and ±20).

For each deal, the "announcement date" has been used as the "event date". The announcement date was the first public offer from the bidder bank to the target bank, or the first joint announcement (executive boards of both participants) of the agreement to go forward the integration. The "announcement dates" were found from bidders' daily reports to the ASE. For the OLS, daily returns for the securities and the General Market Index were used from -220 to -20 days before the announcement of the deal. In cases where one participant was not publicly traded for the full period of 220 trading days before the event, only available observations are included. To construct daily return for each firm, dividends have been taken into account. The data set for the securities' and the market's portfolio returns were obtained from the Athens Stock Exchange Data Bank.

5.1 Target versus bidding firms

Panel A of table 1 shows that M&A deals in the Greek banking industry had no wealth effects for bidders' shareholders which is a consistent finding across the three different event windows.

On the contrary, evidence in panel B of table 1 demonstrates that M&A had positive and highly significant effects for targets' shareholders. For the short event window (±5 days from the announcement), targets' shareholders earned about 20% significant cumulative average abnormal returns, with $CAAR$ increasing in the duration of the event window, reaching about 34,6% for the ±20 day period.

Table 1
Cumulative Average Abnormal Returns

Panel A				**Panel B**			
Bidder Firms				**Target Firms**			
Event Window	**CAAR**	**t**	**St. sign.**	**Event Window**	**CAAR**	**t**	**St. sign.**
±5	-3,552	1,797	-	±5	20,020	6,063	***
±10	-3,755	1,374	-	±10	26,426	5,792	***
±20	0,728	0,191	-	±20	34,614	5,430	***

***St. sign. at 1%
**St. sign. at 5%
*St. sign. at 10%

Our results are in line with those reported by Cybo-Ottone and Murgia (2000), with the exception that for extremely short event windows (±1 and ±2 days) they find positive abnormal returns for bidders. Our findings also

coincide with those of Becher (2000), who documents that targets' shareholders gain positive abnormal returns, increasing in the duration of the event window.

Evidence presented here is also in line with the bulk of the relevant literature. Röller et al. (2001), surveying an extended series of papers, conclude that, on average, bidders' shareholders have no gains while the average target shareholder gain varies between 20 to 35 percent.

5.2 Horizontal versus diversifying M&A

Cases included in our sample have been classified in horizontal and diversifying M&A, according to the activity of the participating firms. Becher (2000) argues that horizontal M&A, where both participants are commercial banks, can create value through the increase of market power and economies of scale, while diversifying M&A, where only the bidder firm is a commercial bank, can create value through the expansion of the services offered and the formation of an effective internal capital market, lowering the cost of capital. Thus, how did the relatedness of the M&A participants' affect shareholders' wealth effects in the Greek banking industry?

5.2.1 Horizontal M&A

Let us begin with the case of horizontal M&A. Panel A of table 2 shows that horizontal M&A deals caused almost -9,8% losses for bidders' shareholders, significant at the 1% level. However, these losses decrease in the expansion of the event window. It should also be mentioned that bidders' losses are sensitive to whether the target firm was publicly traded in the ASE. In cases where the target firm was publicly traded, the bidders had significant losses about -15.7% for the ± 5 day event window, with losses decreasing in the duration of the window. In contrast to this, for cases where the target firm was not traded, the bidders had neither gains nor losses. Regardless of the potential economies of scale and the certain market share increase, the above results (consistent with findings of Houston and Ryngaert, 1994; 1997; Cybo-Ottone and Murgia, 2000) express the possible threat that bidders faced, of losing partially the control over the management of the post-integration firm, given that the target firm was also listed in the ASE. The fact that the target firm was listed in the ASE implied that it was a strong competitor. In general, we conclude that for the horizontal M&A, results for bidders are sensitive to the width of the event window and to whether the target firm was listed in the ASE or not.

On the other hand, targets' shareholders had considerable gains 19% for the ± 5 day event window, with $CAAR$ increasing in the duration of the window, reaching 40% for the ± 20 day window, all significant at the 1% level. Evidence presented in panel B of table 2 suggests that targets' shareholders perceived the horizontal M&A deals as opportunities to increase profits and dividend yields. Results for targets' shareholders in horizontal M&A have to be considered under the prism of the recent deregulation and the subsequent exposure of Greek banks to the highly competitive global banking and financial services industry. These

changes made clear that the Greek commercial banks, although medium-sized for the domestic banking industry, were highly threatened if they were to choose a "standing-alone" strategy in the global market environment. Thus, targets' shareholders perceived M&A as a vehicle to empower their position in the Greek market and ensure their survival in the European market. Our results coincide perfectly with the bulk of the relevant literature for the banking industry, where targets' shareholders gain significant abnormal returns.

Table 2
Cumulative Average Abnormal Returns in Horizontal M&A Deals

Panel A Bidder Firms				Panel B Target Firms			
Event Window	CAAR	t	St. sign.	Event Window	CAAR	t	St. sign.
±5	-9,816	2,813	***	±5	19,075	4,067	***
±10	-8,237	1,079	-	±10	27,532	4,249	***
±20	-4,432	0,734	-	±20	40,637	4,488	***

Cumulative Average Abnormal Returns for Bidder Firms

Publicly traded target firm				Not Publicly traded target firm			
Event Window	CAAR	t	St. sign.	Event Window	CAAR	t	St. sign.
±5	-15,719	3,526	***	±5	-3,912	0,729	-
±10	-16,455	2,671	**	±10	-0,019	0,003	-
±20	-9,282	1,078	-	±20	-1,489	0,144	-

***St. sign. at 1%
**St. sign. at 5%
*St. sign. at 10%

5.2.2 Diversifying M&A

Let us now examine shareholders' wealth effects caused by diversifying M&A deals in the Greek banking industry. Panel A of table 3 shows that diversifying M&A had neither positive nor negative wealth effects for bidders' shareholders. Thus, bidder banks' shareholders did not foresee any profits increase through cross-products deals, regardless of the type of the target firm. Evidence by De Long (2001) suggests negative $CAAR$ for bidders' shareholders in diversifying M&A, while Cybo-Ottone and Murgia (2000) document wealth gains on the

announcement of a diversifying merger or acquisition and especially in cases of bancassurance.

According to targets' shareholders, findings presented in panel B of table 3 indicate significant wealth gains, varying from 22% to 24% for the different event windows. The explanation of this result is similar to the corresponding for targets' shareholders in horizontal M&A, given above. In addition, $CAAR$ for shareholders of insurance firms' and investment banks are not statistically different from each other. Although results for bidders' shareholders in cases of diversifying M&A are inconclusive in the literature, the results documented here are in line with those obtained by Cybo-Ottone and Murgia (2000) and De Long (2001).

Table 3
Cumulative Average Abnormal Returns in Diversifying M&A Deals

Panel A Bidder Firms				Panel B Target Firms			
Event Window	CAAR	t	St. sign.	Event Window	CAAR	t	St. sign.
±5	2,014	0,968	-	±5	21,910	6,875	***
±10	0,229	0,080	-	±10	24,313	5,499	***
±20	6,164	1,534	-	±20	22,570	3,668	***

***St. sign. at 1%
**St. sign. at 5%
*St. sign. at 10%

5.3 Investigating the incentives behind M&A

M&A activity results in overall benefits to investors if the combined post-integration firm is more valuable than the sum of the two separate pre-integration firms. The primary cause of this gain in value is supposed to be the performance improvement following the integration. Using financial market data, the event study methodology measures the impact of M&A deals on firms' value and shareholders' wealth. However, looking only at the two separate entities, a partial interpretation of the market reaction to the deal's announcement may be given. Thus, in order to evaluate the combined post-integration firm's value, the Total Cumulated Abnormal Returns ($TCAR$) is estimated. Following Becher (2000), MV_B and MV_T is the value of the bidder and target firm respectively, 30 days before the event date. Additionally, CAR_B and CAR_T are the cumulative abnormal returns for the bidder and the target firm respectively over the ±5, ±10 and ±20 day event window.

By doing so, we shed some light on the incentives behind M&A:[18] the announcement of a merger or acquisition deal is usually followed by statements according to which, the incentives behind such a deal have their origins on the synergies that will be gained and the subsequent efficiency improvements and increase in competitiveness. However, there are M&A where either these synergies are optimistic, or the actual incentives behind these transactions are grounded on the ambitions of bidder firm's managers. Therefore, two distinct hypotheses of M&A incentives have been presented in the previous literature: the "synergy hypothesis" and the "hubris hypothesis".

If attaining synergies is the objective of the deal, the managers of both target and bidder are intended to maximize shareholder value and we expect a positive effect on the combined post-integration firm's value. According to the hubris hypothesis, a merger deal is the result of the bidder firm top management team's hubris rather than a strategic choice aiming at increasing the combined firm's value. The hubris hypothesis is twofold: M&A can be part of the above team's behaviour to stimulate corporate growth, rather than corporate value, as the private benefits of the management tend to grow with firm size. On the other hand, M&A can be the result of over-optimistic estimations in evaluating potential post-integration synergies and efficiency improvements. Under the hubris hypothesis, we expect that the deal has either a zero or a negative effect on the combined post-integration firm's value.

Thus, the market's expectations on the combined gain resulting from the integration is evaluated, using eq. (4), for the three different event windows. Detailed results are presented in table 4. A consistent finding is that neither horizontal nor diversifying M&A deals in the Greek banking industry had any effects on the combined post-integration firm's value. Negative abnormal returns to bidders offset positive abnormal returns to targets.[19]

[18] The analysis here follows Houston and Ryngaert (1994); Becher (2000) and De Long (2001).

[19] Evidence in the recent literature is mixed. Becher (2000) finds 3% significant cumulative abnormal returns for the combined firm, while De Long (2001) suggests that mergers in the banking industry neither create nor destroy combined firm's value. Only in the special case where mergers focus both on geography and on activities, combined firm's value increases about 3%. Finally, evidence for the European banking industry presented by Cybo-Ottone and Murgia (2000) suggests that there is an approximate increase of 3% in value for the average merger at the time of the deal.

Table 4
Total Cumulative Average Abnormal Returns

TCAR	t	St. sign.	Event Window	TCAR	t	St. sign.
CASE 1				CASE 8		
4,719	1,092	-	±5	1,906	0,336	-
4,808	0,805	-	±10	5,986	0,765	-
3,987	0,447	-	±20	8,494	9,797	-
CASE 9				CASE 13		
-0,141	0,035	-	±5	-33,567	2,272	*
-4,481	0,809	-	±10	-36,818	-36,818	-
-3,162	0,408	-	±20	-42,909	-42,909	-
CASE 16				CASE 17		
-0,206	0,032	-	±5	-5,307	1,414	-
-0,603	0,069	-	±10	-11,371	2,193	**
-0,489	0,040	-	±20	-16,136	2,227	**
CASE 18				***St. sign. at 1%		
1,803	0,530	-	±5	**St. sign. at 5%		
0,411	0,087	-	±10	*St. sign. at 10%		
2,640	0,402	-	±20			

Thus, following the taxonomy that the established literature suggests, M&A in the Greek banking and financial industry were driven by the hubris and not by the synergy hypothesis. However, in order to interpret our results, the evolution and the recent deregulation of the Greek banking industry have to be taken into account. As it has already been mentioned, the deregulation of the Greek banking industry started at 1987, while its exposure on the international competition started at 1992, when the Basic Banking Law, incorporating the provision of the Second Banking Directive, was passed. At the same time, the harmonization of E.U. financial markets' regulation and the need for a single market for financial services were the main factors behind an ongoing process of M&A across E.U. countries.

In this environment, Greek banks had to strengthen their position in the domestic market, and follow defensive strategies in the international market, for the short run. Exploiting any possible economies of scale seemed to be a medium or long run goal. For this purpose, Greek banks followed strategies of internal and external growth. Internal growth strategies contained the expansion of their network of branches and investments in Information and Communication Technologies. External growth strategies contained horizontal and diversifying

M&A. Thus, the strategy for these M&A was the following: bidder banks increased their market share and asset value and abstained from being acquired from competitors in the short-run. Therefore, even if they were to be acquired in the future, their comparatively high value could allow them to charge a high purchase price.

6 Conclusions

The harmonization of regulation and supervision of E.U. financial markets, the introduction of the euro and the need for the creation of a single market for financial services were the main factors behind the financial consolidation process that took place during the 1990s across the European countries. Under these circumstances, the deregulation of the Greek banking and financial services industry was followed by a serious number of M&A during the second half of the last decade.

The aim for this paper was to shed some light on the shareholders' wealth effects caused by the above M&A. Using the event study methodology, significant abnormal gains are estimated upon the announcement of horizontal and diversifying deals for targets' shareholders. Bidders' shareholders had significant losses in cases of horizontal and zero effects in diversifying deals. Although M&A in the Greek banking industry were not value-enhancing in the short run, they can be seen as an external growth strategy whose goal was to strengthen the position of the participants in the domestic market and help them become more tenacious in the fiercely competitive international environment. However, further research of the issue, using accounting data, will shed more light on the long-term profitability of M&A in the Greek banking industry.

7 Appendix

Table A
The sample

Case	Bidder Firm (Commercial bank in all cases)	Target Firm
1	Commercial Bank of Greece	Metrolife (Insurance Services)
2	Commercial Bank of Greece	Commercial Capital (Investment Bank)
3	Bank of Piraeus	Sigma Finance (Financial Services)
4	Bank of Piraeus	Chase Manhattan Bank (Greece) (Commercial Bank)
5	Egnatia Bank	Bank of Central Greece (Commercial Bank)
6	Bank of Piraeus	ABC Professional Services (Financial Services)
7	National Bank of Greece	National Housing Bank (Commercial and housing bank)
8	Bank of Piraeus	Macedonia and Thrace Bank (Commercial Bank)
9	Alpha Credit Bank	Ionian Bank of Greece (Commercial Bank)
10	Consolidated Eurofinance S.A.	Bank of Athens (Commercial Bank)
11	Alpha Credit Bank	1. Ellinobretanikh (Insurance Services) 2. Commercial Insurance (Insurance Services)
12	Bank of Piraeus	Credit Lyonnais (Greece) (Commercial Bank)
13	Bank of Piraeus	Xios Bank (Commercial Bank)
14	Bank of Piraeus	National Westminste Bank (Greece) (Commercial Bank)
15	Bank of Attica	Hermis Finance (Financial Services)
16	EFG Eurobank	Ergo Bank (Commercial Bank)
17	EFG Eurobank Ergasias	Telesis investment bank (Investment Bank)
18	Bank of Piraeus	National Investment Bank for Industrial Development (Investment Bank)
19	Bank of Piraeus	ING/Nationale Nederladen (Insurance Services)

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